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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,616	12/17/2003	Akira Nagai	M1071.1885	4064

7590

04/22/2004

DICKSTEIN SHAPIRO MORIN & OSHINSKY, LLP
1177 Avenue of the Americas
New York, NY 10036

EXAMINER

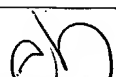
VIJAYAKUMAR, KALLAMBELLA M

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,616	NAGAI ET AL.	
	Examiner	Art Unit	
	Kallambella Vijayakumar	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/277,044.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

- This is a divisional of SI. No. 10/277044, Now US Patent 6,689,296. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/277044, filed on 10/22/2002.
- The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The filing date of the Japanese Application is wrong and it should read be October 23, 2001.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano (US Patent 5,795,501) in view of either Kawazu et al (JP 06-204511) or Tanigami et al (US Patent 5,470,506).

Kano discloses making of auto/glass defogger by screen printing of an electrically conductive composition suitable for hot-heat wires comprising of 100 parts of Ag-powder with a particle size of 0.1-5 microns, 0.5-10 parts by weight of glass frit with a softening point of less than 650°C, rhodium resinate and 1-5 parts by weight an inorganic pigment of metal oxides, dispersed in 1-40% parts by weight of an organic vehicle. Kano further teaches printing of the parallel stripes of conductive patterns on the glass and connecting the ends of the stripes to the bus bars at the end of the window glass and baking the coated glass forming the defogger/defroster on the glass, and further incorporating the defogger in to an automobile would be an obvious step of the process (Col-2, Lines: 11-51; Col-3, Lines: 27-49; Col-4, Line-27-Col-5, Line-38).

Kano teaches all the limitations of the instant claims of making the window/automobile-window-glass-defoggers by the applicants, but does not disclose the use of Molybdenum

compounds such as molybdenum silicide or molybdenum boride in the electrode/conductive/resistive paste for making the window defogger/defroster.

In the analogous art, Kawazu et al discloses an electrode/conductive paste comprising 100 parts by wt silver powder with a particle size of less than 10 microns in diameter, the preferred mean size being 0.8 microns; .05-10 parts by wt of metallic silicides including Mo-silicide; up to 10 parts by wt of glass powder such as use of Pb, Bi and Zn borosilicate glass frit with a softening point of less than 650C; and 15-40 parts of an organic vehicle such acrylates dissolved in solvents like terpineol (Abstract, Sections: 0005-0010). Kawazu's composition of the electrode/conductive paste is almost identical to composition in the limitations of the paste forming the defogging heat wires/elements in the instant claims by the applicants.

In the analogous art Tanigami teaches the composition of conductive/resistive heat generating compositions comprising of various electrically conductive powders of metal including Silver/metal-oxide/ carbide/boride/silicide including Mo-boride-Mo-silicides/glass frit powders dispersed in organic vehicle, varying their ratios based on the needs of the application and elements formed by screen printing of the paste over a substrate and firing them (Col-1, Lines: 11-144; Col-4, Lines: 22-26; Col-11, Lines: 7-29).


It would have been obvious to one of ordinary skilled in the art to modify the Automobile defogger of Kano with the conductive/resistive paste per the teachings of either Kawazu or Tanigami and vary the composition specifically by incorporating Mo-Silicide and/or Mo-Boride in the process of making a window-glass/automobile-window-glass-with defogging heat-wires/elements, to benefit from improved conductivity, color and reduced oxidation of

metallic components, because all the teachings are in the defogger/heat-generating-conductive/resistive compositions based on silver and borosilicate glass frits wherein such variations are taught, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claims by the applicants.

Conclusion

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kmv
April 16, 2004


Mark Kopec
Primary Examiner